

WHAT IS CLAIMED IS:

1. A computer implemented data processing system, comprising:

dimensional model generation system configured to receive, as an input, an object model description, indicative of a first object model that represents business data, and generate a dimensional model based on the input;

an entity generator generating a second object model based on the dimensional model, the second object model representing business data represented by the dimensional model; and

a data navigation system configured to identify a data navigation path from a relationships between individual sets of data that comprise the business data.

2. The system of claim 1 wherein the first object model represents transactional business data.

3. The system of claim 2 wherein the second object model represents aggregated business data.

4. The system of claim 3 wherein the data navigation system identifies data navigation paths between the transactional and aggregated business data.

5. The system of claim 1 and further comprising:  
a data accessing system providing an interface  
to access the business data through the  
second object model.

6. The system of claim 5 wherein the data accessing  
system is configured to receive an object oriented  
query expression expressed in terms of entities in  
the second object model, and wherein the data  
accessing system comprises:

a translation component configured to translate  
the object oriented query expression into a  
dimensional model query expression and  
execute it against the dimensional model.

7. The system of claim 1 wherein the data  
navigation system is configured to provide the data  
navigation path to the user so as to enable the user  
to move from a first data set to a related second  
data set.

8. The system of claim 1 wherein the object  
model description describes a relationship between  
entities in the first object model and wherein the  
dimensional model generation system comprises:

a dimensional model generation component  
configured to receive, as inputs, the  
object model description, a focal point  
identifier identifying information in the  
object model as a focal point, and mapping

information indicative of a mapping between entities in the first object model and a persistent data store.

9. The system of claim 7 wherein the data navigation system comprises:

- a plurality of data navigation providers each associated with a specific type of navigation;

- a navigation service layer configured to transmit a navigation service request to one or more of the data navigation providers; and

- a metadata service for providing the plurality of data navigation providers with access to a metadata store, each data navigation provider being configured to respond to a received data navigation request by interacting with the metadata service to identify at least one data navigation path.

10. The system of claim 9 wherein at least one of the plurality of data navigation providers is associated with navigation from aggregated data to related transaction data.

11. The system of claim 9 wherein at least one of the plurality of data navigation providers is associated with navigation from transaction data to related aggregated data.

12. The system of claim 9 wherein at least one of the plurality of data navigation providers is associated with navigation between two data units that share a dimension.

13. The system of claim 9 wherein at least one of the plurality of data navigation providers is associated with hierarchical navigation through collections of data that are hierarchically organized.

14. The system of claim 9 wherein at least one of the plurality of data navigation providers is associated with navigation between two data collections that the user has identified as related.

15. An architecture supporting analytical processing of transactional business data by an application, the architecture comprising:

- a design component configured to receive a transactional object model description and generate a dimensional model and an analytical programming object model from the transactional object model description, the analytical programming model representing data represented by the dimensional model and the transactional object model; and

a runtime component configured to automatically identify navigable paths between data sets in the business data in the architecture and provide the paths for navigation by a user.

16. The architecture of claim 15 wherein the runtime component is configured to identify navigation paths between data sets represented by the transactional object model, the dimensional model and the analytical programming object model.

17. The architecture of claim 15 wherein the runtime component identifies data navigation paths between the transactional and analytical business data.

18. The architecture of claim 15 wherein the runtime component further comprising:

a data accessing system providing an interface to access the business data through the analytical programming model.

19. The architecture of claim 18 wherein the data accessing system is configured to receive an object oriented query expression expressed in terms of entities in the analytical programming model, and wherein the data accessing system comprises:

a translation component configured to translate the object oriented query expression into a

dimensional model query expression and execute it against the dimensional model.

20. The architecture of claim 15 wherein the transactional object model description describes a relationship between entities in the transactional object model and wherein the dimensional model generation system comprises:

- a dimensional model generation component configured to receive, as inputs, the transactional object model description, a focal point identifier identifying information in the transactional object model as a focal point, and mapping information indicative of a mapping between entities in the transactional object model and a persistent data store.

21. The architecture of claim 20 wherein the runtime component comprises:

- a plurality of data navigation providers each associated with a specific type of navigation;
- a navigation service layer configured to transmit a navigation service request to one or more of the data navigation providers; and
- a metadata service for providing the plurality of data navigation providers with access to a metadata store, each data navigation

provider being configured to respond to a received data navigation request by interacting with the metadata service to identify at least one data navigation path.

22. The architecture of claim 21 wherein at least one of the plurality of data navigation providers is associated with navigation from aggregated data to related transaction data.

23. The architecture of claim 21 wherein at least one of the plurality of data navigation providers is associated with navigation from transaction data to related aggregated data.

24. The architecture of claim 21 wherein at least one of the plurality of data navigation providers is associated with navigation between two data units that share a dimension.

25. The architecture of claim 21 wherein at least one of the plurality of data navigation providers is associated with hierarchical navigation through collections of data that are hierarchically organized.

26. The architecture of claim 21 wherein at least one of the plurality of data navigation providers is associated with navigation between two data collections that the user has identified as related.